

ERG1, a squalene epoxidase gene,

or

ii) **t-HMG**, an HMG-Co-A-reductase gene, and

ERG9, a squalene synthetase gene,

or

iii) **t-HMG**, an HMG-Co-A-reductase gene, and

SAT1, an acyl-CoA: sterol-acyl transferase gene,

or

iv) **t-HMG**, an HMG-Co-A-reductase gene, and

ERG1, a squalene epoxidase gene,

or

v) **ERG9**, a squalene synthetase gene, and

SAT1, an acyl-CoA: sterol-acyl transferase gene,

or

vi) **ERG9**, a squalene synthetase gene, and

ERG1, a squalene epoxidase gene,

or

vii) **SAT1**, an acyl-CoA: sterol-acyl transferase gene, and

ERG1, a squalene epoxidase gene,

or

viii) one of the genes selected from the group consisting of **ERG9**, **SAT1** and **ERG1**,

b) transforming a microorganism with a plasmid mentioned in i) to vii), or, simultaneously or in succession, with two or more of the plasmids mentioned in viii), and

c) culturing the transformed microorganism under conditions in which it produces ergosterol and an intermediate product of ergosterol biosynthesis.

36. (Amended) A yeast strain **S. cerevisiae** AH22 comprising at least one gene selected from the group consisting of **t-HMG**, an HMG-Co-A-reductase gene, **ERG9**, a squalene synthetase gene; **SAT1**, an Acyl-CoA sterol-acyl transferase gene; and **ERG1**, a squalene epoxidase gene.

37. (Amended) The plasmid YEph2, which comprises the **ADH**-promoter, the **t-HMG**

gene, and the **TRP**-terminator, as shown in Fig. 1.

38. (Amended) The plasmid YDpUHK3, which comprises the **ADH**-promoter, the **t-HMG** gene, the **TRP**-terminator, the gene for kanamycin resistance and the **ura3** gene, as shown in Fig. 2.

39. (Amended) The plasmid pADL-SAT1, which comprises the **SAT1** gene and the **LEU2** gene of YEp13, as shown in Fig 3.

42. (Amended) A method for producing an intermediate sterol product with a 5,7-diene structure in the biosynthesis of ergosterol, comprising transforming a microorganism with a plasmid according to claim 37, and culturing the transformed microorganism under conditions in which it produces said intermediate sterol product.

43. (Amended) An expression cassette that comprises a **t-HMG** gene operatively linked to an **ADH**-promoter and a **TRP**-terminator, and an **SAT1** gene operatively linked to an **ADH**-promoter and a **TRP**-terminator.

44. (Amended) An expression cassette that comprises a **t-HMG** gene operatively linked to an **ADH**-promoter and a **TRP**-terminator, and an **SAT1** gene operatively linked to an **ADH**-promoter and a **TRP**-terminator, and an **ERG9**-gene operatively linked to an **ADH**-promoter and a **TRP**-terminator.

53. (Amended) A method for producing ergosterol or one or more intermediate products of its biosynthesis, comprising expressing in a microorganism a plasmid which comprises the following genes:

- i) **t-HMG**, an HMG-Co-A-reductase gene,
ERG9, a squalene synthetase gene,
SAT1, an Acyl-CoA: sterol-acyl transferase gene, and
ERG1, a squalene epoxidase gene,

or

- ii) **t-HMG**, an HMG-Co-A-reductase gene, and

ERG9, a squalene synthetase gene,

or

- iii) **t-HMG**, an HMG-Co-A-reductase gene, and
SAT1, an acyl-CoA: sterol-acyl transferase gene,

or

- iv) **t-HMG**, an HMG-Co-A-reductase gene, and
ERG1, a squalene epoxidase gene,

or

- v) **ERG9**, a squalene synthetase gene, and
SAT1, an acyl-CoA: sterol-acyl transferase gene,

or

- vi) **ERG9**, a squalene synthetase gene, and
ERG1, a squalene epoxidase gene,

or

- vii) **SAT1**, an acyl-CoA: sterol-acyl transferase gene, and
ERG1, a squalene epoxidase gene,

or

- viii) one of the genes selected from the group consisting of **ERG9**, **SAT1** and **ERG1**,
and isolating the expressed ergosterol or intermediate products of its biosynthesis.
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